

CLAIMS

1. A novel polyimide copolymer, which is a copolymer comprising two kinds of tetracarboxylic acid dianhydrides consisting of (A) isopropylidene-bis(4-phenyleneoxy-4-phthalic acid) dianhydride and (B) 3,3' ,4,4' -biphenyltetracarboxylic acid dianhydride, and (C) 6-amino-2-(p-aminophenyl)-benzimidazole.
2. A novel polyimide copolymer according to Claim 1, wherein the copolymer has a film formability.
3. A novel polyimide copolymer according to Claim 1, wherein the two kinds of tetracarboxylic acid dianhydrides are used in a proportion of component (A) to component (B) of 10 - 80 mol.% to 90 - 20 mol.%.
4. A film formed from a novel polyimide copolymer according to Claim 3.
5. A metal laminate manufactured by laminating a layer of a novel polyimide copolymer according to Claim 3 to a metallic foil.
6. A metal laminate according to Claim 5 for use as a flexible printed circuit board.
7. A novel polyimide copolymer, which is a copolymer comprising two kinds of tetracarboxylic acid dianhydrides consisting of (A) isopropylidene-bis(4-phenyleneoxy-4-phthalic acid) dianhydride and (B) 3,3' ,4,4' -biphenyltetracarboxylic acid dianhydride, and two or three kinds of diamines consisting of (C) 6-amino-2-(p-aminophenyl)benzimidazole and (D) at least one kind of diamines consisting of bis(4-aminophenyl)ether (D_1) and phenylenediamine (D_2).
8. A novel polyimide copolymer according to Claim 7, wherein the copolymer has a film formability.
9. A novel polimide copolymer according to Claim 7, wherein the two

kinds of tetracarboxylic acid dianhydrides are used in a proportion of component (A) to component (B) of 10 - 80 mol.% to 90 - 20 mol.%, and the diamines are used in a proportion of component (C) to component (D₁) of not less than 60 mol.% to not more than 40 mol.%.

10. A novel polimide copolymer according to Claim 7, wherein the two kinds of tetracarboxylic acid dianhydrides are used in a proportion of component (A) to component (B) of 10 - 80 mol.% to 90 - 20 mol.%, and the diamines are used in a proportion of component (C) to component (D₂) of not less than 20 mol.% to not more than 80 mol.%.

11. A film manufactured from a novel polyimide copolymer according to Claim 9.

12. A film manufactured from a novel polyimide copolymer according to Claim 10.

13. A metal laminate manufactured by laminating a layer of a novel polyimide copolymer according to Claim 9 to a metallic foil.

14. A metal laminate manufactured by laminating a layer of a novel polyimide copolymer according to Claim 10 to a metallic foil.

15. A metal laminate according to Claim 13 for use as a flexible printed circuit board.

16. A metal laminate according to Claim 14 for use as a flexible printed circuit board.

17. A process for manufacturing a metal laminate laminated with a polyimide copolymer layer, characterized by subjecting two kinds of tetracarboxylic acid dianhydrides consisting of (A) isopropylidenebis(4-phenyleneoxy-4-phthalic acid) dianhydride and (B) 3,3',4,4'-biphenyltetracarboxylic acid dianhydride to reaction with one kind of diamine consisting of (C) 6-amino-2-(p-aminophenyl)benzimidazole or two

or three kinds of diamines consisting of component (C) and (D) at least one kind of diamines consisting of bis(4-aminophenyl)ether (D₁) and phenylenediamine (D₂) in a polar solvent, applying the resulting solution of polyamic acid in the polar solvent to a metallic foil, and then drying the solvent off, followed by heating to a polyimidization reaction temperature.